



L8: Entry 60 of 159

File: USPT

Jan 8, 2002

S-PAT-NO: 6337200

DOCUMENT-IDENTIFIER: US 6337200 B1

ITITLE: Human telomerase catalytic subunit variants

ATE-ISSUED: January 8, 2002

INVENTOR-INFORMATION:

| NAME | CITY | STATE | ZIP CODE | COUNTRY |
|-----------------|-----------|-------|----------|---------|
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S-CL-CURRENT: 435/194; 435/320.1, 435/325, 435/440, 435/455, 435/69.1, 435/70.1, 514/44,
30/350, 536/23.1, 536/23.5

LAIMS:

What is claimed is:

1. A polynucleotide encoding a variant of human telomerase reverse transcriptase (hTERT), said variant having processive catalytic activity and comprising a deletion of at least 10 amino acids from region 192-323 or 415-450 of SEQ. ID NO:2.
2. The polynucleotide of claim 1, wherein the variant comprises a deletion of at least 25 amino acids from region 192-323 or 415-450 of SEQ. ID NO:2.
3. The polynucleotide of claim 1, further comprising a promoter sequence operably linked to the nucleotide sequence encoding the hTERT variant.
4. The polynucleotide of claim 1 that has a deletion of at least one region encoding exactly amino acids 192-323, 200-323, 200-271, 222-240, or 415-450 of SEQ. ID NO:2.
5. The polynucleotide of claim 1 that does not comprise a deletion in the region encoding amino acids 415-450.
6. The polynucleotide of claim 5, further comprising a promoter sequence operably linked to the nucleotide sequence encoding the hTERT variant.

7. A method for increasing the proliferative capacity of a human cell in vitro, comprising expressing the polynucleotide of claim 6 in the cell, thereby increasing its proliferative capacity.

8. A method for increasing the proliferative capacity of a human cell in vitro, comprising expressing the polynucleotide of claim 3 in the cell, thereby increasing its proliferative capacity.

9. A method for producing a variant telomerase reverse transcriptase, comprising expressing the polynucleotide of claim 1 in a host cell or in a cell-free expression system.

10. A cell comprising the polynucleotide of claim 1.

11. The cell of claim 10, that is a human cell.